



DEPARTMENT OF DEFENSE EXPLOSIVES SAFETY BOARD  
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ALEXANDRIA VIRGINIA A 22331-0600



28 OCT 2002

DDESB-KT

MEMORANDUM FOR DIRECTOR, U.S ARMY DEFENSE AMMUNITION CENTER  
(ATTENTION: SOSAC-EST)

SUBJECT: Revision of Technical Data Package for Quantity-Distance Reduction Using  
Concertainer Barricades

- References: (a) SOSAC-EST Memorandum dated 22 October 2002, Subject as above, with  
enclosures
- (b) SOSAC-EST (385) Memorandum dated 18 July 2002, Subject: Technical Data  
Package (TDP) for Quantity-Distance (QD) Reduction Using Concertainer  
Barricades as above, with enclosures
- (c) DDESB-KT Memorandum dated 09 September 2002, Subject: Technical Data  
Package (TDP) for Quantity-Distance (QD) Reduction Using Concertainer  
Barricades

Reference (a) requested Department of Defense Explosives Safety Board (DDESB) approval of a revised version of TDP for QD Reduction Using Concertainer Barricades, which deleted the current restriction against storing white phosphorus. The inclusion of this restriction in the original TDP that was submitted to the DDESB as part of reference (b) was an oversight. In addition, the requirement to direct shape-charge weapons away from adjacent storage cells has been eliminated. This requirement was deemed to be unnecessary because of the 10-foot minimum standoff that is required between stored munitions and the concertainer barricade. The revised TDP is approved for use, and this memorandum supercedes the previous approval given by reference (c).

A full-scale test of a HESCO-Bastion concertainer barricade, configured as shown in the reference TDP, demonstrated its ability to prevent prompt propagation (sympathetic detonation) from occurring between munition storage cells, each containing 4,000 kg (8,820 lbs) net explosives weight (NEW) of Hazard Division (HD) 1.1, that were separated by less than the minimum barricaded intermagazine (IM) distance of 124 feet (K6), as required by C9.T5 of DoD 6055.9-STD. In the full-scale test, the barricaded IM distance provided between munition storage cells separated by HESCO-Bastion concertainer barricades was 28 feet. Detonation of a 4,000 kg (8,820 lbs) NEW of HD 1.1 donor charge located in the center storage cell did not cause any reactions to adjacent acceptor munition storage cells containing worst-case HD 1.1 and HD 1.3 munitions, though these munitions were scattered and damaged. Based on the results of this full-scale test, the use of a HESCO-Bastion concertainer barricade constructed per the reference TDP is approved, with a resultant reduction in required barricaded IM separation

distance between adjacent storage cells from 120 feet (K6) to 28 feet. The following pertain to use of this TDP for the storage of munitions:

a. Each storage cell is restricted to a maximum of 4,000 kg (8,820 lbs) NEW of mixed HD 1.1 and HD 1.2 (Sensitivity Groups 1 through 5), HD 1.3, and HD 1.4. The maximum credible event associated with any storage arrangement constructed per the reference TDP is one munition storage cell and its QD is 1,250 feet (381 meters), in accordance with Table C9.T1 of DoD 6055.9-STD. When determining NEW, HD 1.4 may be excluded, as it will not contribute to the severity of an explosion were one to occur.

b. A minimum of 10 feet standoff will be maintained from the munition stack to the nearest concertainer barricade.

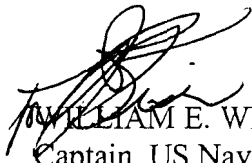
c. The height of the munition stack must be controlled to provide a minimum 2-degree angle from the top of the stack to the top of the barricade as illustrated in C5.F2 of DoD 6055.9-STD.

d. The barricade length must meet the minimum criteria of DoD 6055.9-STD, as illustrated in C5.F3.

e. Inspection of the barricade will be conducted on a periodic basis to insure its integrity and stability. Deteriorating or damaged sections will be replaced.

The subject TDP will be included in the next revision of Department of Defense Explosives Safety Board Technical Paper 15.

My point of contact on this matter is Mr. Eric Deschambault, commercial phone: 703-325-1369, DSN: 221-1369; fax: 703-325-6227; e-mail: Eric.Deschambault@ddesb.osd.mil.

  
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